Claims:

1. A method for identifying an acoustic scene, whereas the method comprises the steps that an acoustic input signal preferably recorded by at least one microphone is processed in at least two processing stages in such a manner

- that an extraction phase is provided in at least one of the at least two processing stages, in which extraction phase characteristic features are extracted from the input signal, and
- that an identification phase is provided in each processing stage, in which identification phase the extracted characteristic features are classified,

whereby class information is generated according to the classification of the features in at least one of the processing stages, which class information characterizes or identifies the acoustic scene.

2. The method according to claim 1, wherein an extraction phase is provided in each processing stage, in which extraction phase characteristic features are extracted from the input signal.

3. The method according to claim 1, wherein a manner of processing in a processing stage is selected according to the class information obtained in another processing stage.

4. The method according to claim 2, wherein a manner of processing in a processing stage is selected according to the class information obtained in another processing stage.

5. The method according to claim 2, wherein the class information obtained in the identification phase of a processing stage i determines a processing manner in one of the following, inferior processing stages i+1.

6. The method according to claim 3, wherein the class information obtained in the identification phase of a processing stage i determines a processing manner in one of the following, inferior processing stages i+1.

7. The method according to claim 4, wherein the class information obtained in the identification phase of a processing stage i determines a processing manner in one of the following, inferior processing stages i+1.

8. The method according to claim 5, wherein, according to class information obtained in the processing stage i, specific features are selected in the extraction phase of the following, inferior processing stage i+1 and/or

specific classification methods are selected in the identification phase of the following, inferior processing stage i+1.

9. The method according to claim 6, wherein, according to class information obtained in the processing stage i, specific features are selected in the extraction phase of the following, inferior processing stage i+1 and/or specific classification methods are selected in the identification phase of the following, inferior processing stage i+1.

10. The method according to claim 7, wherein, according to class information obtained in the processing stage i, specific features are selected in the extraction phase of the following, inferior processing stage i+1 and/or specific classification methods are selected in the identification phase of the following, inferior processing stage i+1.

11. Method according to claim 1, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

12. Method according to claim 2, wherein a post-processing phase is provided in at least one processing stage

subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

13. Method according to claim 3, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

14. Method according to claim 4, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

15. Method according to claim 5, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

16. Method according to claim 6, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

17. Method according to claim 7, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

18. Method according to claim 8, wherein a post-processing phase is provided in at least one processing stage subsequent to the extraction phase, in which post-processing stage the class information are revised in order to generate revised class information.

19. The method according to claim 1, wherein one of the following classification methods is used in the identification phase:

- Hidden Markov Models;
- Fuzzy Logic;
- Bayes Classifier;
- Rule-based Classifier
- Neuronal Networks;
- Minimal Distance.

20. Method according to claim 1, wherein technical and/or auditory-based features are extracted in the extraction phase.

21. Use of the method according to one of the claims 1 to 20 for the adjustment of at least one hearing device to a momentary acoustic scene.

22. Use of the method according to claim 21, wherein a hearing program or a transfer function between at least one microphone and a speaker in a hearing device is selected according to a determined acoustic scene.

23. Use of the method according to one of the claims 1 to 20 for speech analysis or speech detection.

24. A device for identifying an acoustic scene with a feature extraction unit which is operatively connected to a classification unit in order to process an input signal, said device comprising

- a feature extraction unit in at least one of the at least two processing stages,
- a classification unit in each processing stage,

whereas the input signal is fed to the feature extraction units and wherein class information is generated by the classification units.

25. The device according to claim 24, further comprising a feature extraction unit in each processing stage.

26. The device according to claim 24, wherein the class information is fed to other processing stages.

27. The device according to claim 25, wherein the class information is fed to other processing stages.

28. The device according to claim 24, wherein the class information of a processing stage i is fed to a following, inferior processing stage i+1.

29. The device according to claim 25, wherein the class information of a processing stage i is fed to a following, inferior processing stage i+1.

30. The device according to claim 26, wherein the class information of a processing stage i is fed to a following, inferior processing stage i+1.

31. The device according to claim 27, wherein the class information of a processing stage i is fed to a following, inferior processing stage i+1.

32. The device according to claim 28, wherein the class information of a processing stage i is fed to a feature extraction unit of a following, inferior processing stage i+1, and/or wherein the class information of a processing stage i is fed to a classification unit of a following, inferior processing stage i+1.

33. The device according to claim 29, wherein the class information of a processing stage i is fed to a feature extraction unit of a following, inferior processing stage i+1, and/or wherein the class information of a processing stage i is fed to a classification unit of a following, inferior processing stage i+1.

34. The device according to claim 30, wherein the class information of a processing stage i is fed to a feature extraction unit of a following, inferior processing stage i+1, and/or wherein the class information of a processing stage i is fed to a classification unit of a following, inferior processing stage i+1.

35. The device according to claim 31, wherein the class information of a processing stage i is fed to a feature extraction unit of a following, inferior processing stage

i+1, and/or wherein the class information of a processing stage i is fed to a classification unit of a following, inferior processing stage i+1.

36. The device according to one of the claims 24 to 35, wherein the class information obtained in at least one processing stage is fed to a post-processing unit in order to generate revised class information.

37. The device according to claim 24 or 25, wherein the class information of all processing stages is fed to a decision unit.

38. The device according to claim 37, wherein the decision unit is operatively connected to at least one of the feature extraction units and/or to at least one of the classification units.

39. A hearing device with a transfer unit operatively connected to at least one microphone and to a converter unit, in particular to a speaker, and with a device according to one of the claims 24 to 35 for generating class information, whereas the class information is fed to the transfer unit.

40. The hearing device according to claim 39, further comprising an input unit which is operatively connected to

the transfer unit and/or with the device according to one of the claims 24 to 35.

41. The hearing device according to claim 40, comprising a wireless link between the input unit and the transfer unit and/or between the input unit and the device according to one of the claims 24 to 35, respectively.